

# SAVING THE ARMY TIME AND MONEY



By Lieutenant Colonel Bradley A. Duffey

**I**n a growing military community like Grafenwoehr, Germany, balancing housing and community needs with training requirements is complex. Sometimes, ensuring that both areas of need are covered requires some out-of-the-box thinking.

Back in March 2007, the 7th United States Army Joint Multinational Training Command (JMTC) Safety Office had no choice but to shut down a critical ammunition holding area because it was too close to new housing construction. Without the use of that holding area, units training at Grafenwoehr would feel the impact immediately. Faced with an already demanding and rapidly increasing operations tempo, JMTC began sorting options to resolve the issue. There were three possible avenues to be evaluated:

- The first option—contract development of a new ammunition holding area—was quickly ruled out. The contracting process would be too time-consuming and would directly impact operations on the ranges and training sites. A faster solution was needed.
- The second option was to negotiate with the German government, which was willing to allow continued use of the holding area, but at greatly reduced tonnage. That would also impact operations and slow down

training for the units as they took valuable time to readjust ammunition receiving and distribution plans instead of putting rounds downrange.

- The third option, which JMTC chose, was to request that Army National Guard engineer assets come to Grafenwoehr for overseas duty training, with a goal of having the new site built within 21 days. With that plan in hand, the command invited the 631st Engineer Company from Lawrenceville, Illinois, to train at Grafenwoehr. This mission closely resembles combat operations in Iraq or Afghanistan, since units in both places are working similar issues regarding ammunition holding area construction. As the theater matures and neighborhoods in such places as Balad and Baghdad improve, ammunition holding areas will ultimately have to be moved and rebuilt.

JMTC still faced another problem—money. Fiscal year 2007 funds were earmarked, and even though bringing in National Guard Soldiers for construction saved the Army nearly \$185,000, still more dollars needed to be saved. Time and dollars were both tight, and it would take lots of both to bring the unit to Germany, conduct a reconnaissance, obtain data, return home, and then prepare to deploy to Germany for



**Soldiers from the 631st Engineer Company build concrete walls for the ammunition holding area.**

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**The Soldiers begin site preparation and conduct new operator training.**

the mission. To offset some of these costs, the United States Army Corps of Engineers® (USACE), Europe District, was called for design assistance. The chief of operations, plans, and security for the district sent a forward engineer support team-advanced (FEST-A) to Grafenwoehr to conduct the site plan survey.

This mission was a great training opportunity and the type of mission the FEST-A was designed to accomplish. The team, combined with reachback support, provided a great resource. The team conducted an area assessment, compiling data and sending it to the USACE TeleEngineering Operations Center in Vicksburg, Mississippi. The center analyzed the data and forwarded the mission to the USACE Ordnance and Explosives Center of Expertise in Huntsville, Alabama. There, using the data from Grafenwoehr and analysis from Vicksburg, experts in the explosives storage field were able to create a design, develop a scope of work, and determine the bill of materials needed. JMTC used the design to coordinate with the 631st and determine the number of personnel and amount of equipment needed for the project. The design created was used as the centerpiece of the master plan to execute the mission.

Faced with a limited budget, JMTC had to phase in the project over two years. The minimum standards for an operational ammunition holding area were gravel pads, protective berms, and lightning protection poles. The engineers had to be creative with the design of the berms in order to save money on fill material. There were three variations of the berm, but the design agreed on by agencies within JMTC was the one that saved the most amount of fill, thus saving more money.

Because of other construction projects in the JMTC area of responsibility, equipment was limited. The 631st had the following assets for the construction project:

- (1) Roller
- (2) 2½-yard scoop loaders
- (1) 917 dump truck
- (1) 5-ton dump truck
- (2) D7 dozers
- (1) Grader
- (1) Small Emplacement Excavator (SEE)

The purpose of the overseas deployment training was not only to augment the Active Army in mission accomplishment but also to allow the unit to think outside the box and work around its own strengths and weaknesses to complete the mission. Unit leaders received a cookie-cutter Program Evaluation Review Technique (PERT) chart as guidance; however, the unit had to shape the project chart for rain delays and equipment deadlines. For instance, the 631st spent an entire day analyzing the terrain for grading activities because increased grading and dozer activities would eventually change the direction and flow of rainwater on the site. As a result, an extra day was planned to improve drainage. Also, the unit leadership decided to sequence construction activities so fill material was not exposed to excessive rainwater for long periods of time.

The 631st encountered several other minor problems that caused it to think outside the box to find a feasible solution to





**Army National Guard Soldiers from the 631st Engineer Company install a lightning protection pole next to a pad for the ammunition holding area.**

meet the standards of the mission. For instance, the unit had a D7 dozer that was not running at full capacity. To prevent pushing it to its limits and hastening a deadline status, the dozer was used in its limited capacity as a D5. This limited the D7's production, but having the extra lag time was worth more than losing the dozer to maintenance downtime. The company constrained the project by choosing the activities that had the most total float, such as berm construction.

The 631st also had to conduct a concrete mission for this project. The unit received support from three members of the 368th Engineer Battalion (Combat) (Heavy) from Londonderry, New Hampshire, who provided oversight for the form construction and concrete installation. After the concrete was poured on the first pad site, members of the 631st completed the rest of the concrete work needed for the pads. An added feature to the concrete edging was metal bands installed inside the formwork to connect to the lightning protection poles.

New lightning protection poles were not going to arrive until long after the 631st had returned home. Faced with not being able to use the ammunition holding area until late August, the decision was made to salvage the poles from the old site and develop a workable plan. However, the lightning protection poles ordered to specification were taller and had two loops at 90-degree angles for feeding wire cable through to connect the poles. The 631st adapted the plan by turning the existing poles so that the single loop faced into the pad at a 45-degree angle, allowing the cables running around the top to be connected to each pole by one loop instead of two.

After the 631st installed lightning protection poles and grounding wires to the first pad with the concrete edging, the Grafenwoehr Department of Public Works came to the site and conducted an ohm test. The test results were well within the acceptable range. It is necessary for the pad to have less than 10 ohms, since more than that would require additional grounding rods placed below the pad.

As time constraints became a larger issue and materials in the original design were not going to be available for the unit to complete the project as originally designed, the 631st broke the plans down into mission-essential elements and nonessential elements. If the unit found that a nonessential element was going to delay the completion of the project, the Soldiers developed alternate courses of action that achieved the same end state. The ingenuity of the Soldiers from the 631st Engineer Company kept the project under budget and on time. And of equal importance, maneuver training went ahead seamlessly, without interruption.



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